

CLAIMS

1. An apparatus for preventing leakage of a material inside a bulb
5 for a plasma lighting system, comprising:
a bulb containing a discharge material therein for emitting light as the
discharge material becomes a plasma state by an electric field; and
a magnetic field forming portion for preventing the discharge material
of a plasma state from being leaked by an external electric field of the bulb by
10 forming a magnetic field at a peripheral portion of the bulb.
2. The apparatus of claim 1, wherein the magnetic field forming
portion forms a magnetic field as a wedge shape so that the discharge
material be positioned at a center of the bulb.
- 15 3. The apparatus of claim 1, wherein the discharge material
comprises sodium (Na).
4. The apparatus of claim 2, wherein the discharge material
20 comprises Na.
5. An apparatus for preventing leakage of a material inside a bulb
for a plasma lighting system, comprising:

a resonator;

a bulb received in the resonator and containing a discharge material
5 therein for emitting light as the discharge material becomes a plasma state by
an electric field; and

a magnetic field forming portion for preventing the discharge material
of a plasma state from being leaked by an external electric field of the bulb by
forming a magnetic field at a peripheral portion of the bulb.

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6. The apparatus of claim 5, wherein the magnetic field forming
portion forms a magnetic field as a wedge shape so that the discharge
material be positioned at a center of the bulb.

15 7. The apparatus of claim 6, wherein the magnetic field forming
portion is implemented as an electromagnet.

8. The apparatus of claim 6, wherein the magnetic field forming
portion is implemented as a permanent magnet.

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9. The apparatus of claim 5, wherein the discharge material
comprises Na.

10. The apparatus of claim 6, wherein the discharge material

comprises Na.

11. An apparatus for preventing leakage of a material inside a bulb
5 for a plasma lighting system, comprising:

a casing;

a magnetron mounted in the casing;

a wave guide connected to the magnetron for guiding electromagnetic
wave;

10 a resonator connected to the wave guide for resonating
electromagnetic wave;

a bulb received in the resonator and containing a discharge material
therein for emitting light as the discharge material becomes a plasma state by
an electric field; and

15 a magnetic field forming portion for preventing the discharge material
of a plasma state from being leaked by an external electric field of the bulb by
forming a magnetic field at a peripheral portion of the bulb.

12. The apparatus of claim 11, wherein the magnetic field forming
20 portion forms a magnetic field as a wedge shape so that the discharge
material be positioned at a center of the bulb.

13. The apparatus of claim 12, wherein the magnetic field forming

portion is implemented as an electromagnet.

14. The apparatus of claim 12, wherein a reflector having the
5 resonator therein for forwardly reflecting light generated from the bulb is installed at a front side of the casing.

15. The apparatus of claim 14, wherein the magnetic field forming
10 portion is installed accordingly as the electromagnet is mounted in a housing and the housing is positioned at an outer circumferential surface of the reflector.

16. The apparatus of claim 12, wherein the magnetic field forming
15 portion is installed accordingly as the electromagnet is mounted in a housing and the housing is coupled to the casing.

17. The apparatus of claim 12, wherein the magnetic field forming
portion is implemented as a permanent magnet.

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18. The apparatus of claim 17, wherein the permanent magnet is attached to an outer circumferential surface of the casing.

19. The apparatus of claim 11, wherein the discharge material

comprises Na.

20. The apparatus of claim 12, wherein the discharge material
5 comprises Na.